



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known

Application Number	10/691,353
Filing Date	October 22, 2003
First Named Inventor	KRYLIOUK et al.
Art Unit	2879-2823
Examiner Name	H. LEE
Attorney Docket Number	5853-415

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
Lee		US- 6,030,886	02/29/2000	Yuri et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

Examiner Signature	<i>Heon Min Lee</i>	Date Considered	4/5/2005
--------------------	---------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	10/691,353
		Filing Date	October 22, 2003
		First Named Inventor	Kryliouk et al.
		Art Unit	2879-2823
		Examiner Name	H. Lee
Sheet 1	of 2	Attorney Docket Number	5853-415

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
Lee		PEARTON et al., "GaN: Processing, defects, and devices," Journal of Applied Physics, 86:1-78, 1999.	
		PEARTON et al., "Fabrication and performance of GaN electronic devices," Materials Science and Engineering: R: Reports, 30:1-137, 2000.	
		KIM et al., "Growth of high-quality GaN on Si(111) substrate by ultrahigh vacuum chemical vapor deposition," Applied Physics Letters, 78:2858-2860, 2001.	
		KROST et al., "GaN-Based Devices on Si," Phys. Stat. Sol., 194:361-375, 2002.	
		WANG et al., "Growth of hexagonal GaN on Si(111) coated with a thin flat SiC buffer layer," Applied Physics Letters, 77:1846-1848, 2000.	
		ZAMIR, "The effect of AlN buffer layer on GaN grown on (111)-oriented Si substrates by MOCVD," Journal of Crystal Growth, 218:181-190, 2000.	
		UEDA et al., "Vapor phase epitaxy growth of GaN on pulsed laser deposited ZnO buffer layer," Journal of Crystal Growth, 187:340-346, 1998.	
		GU et al., "Role of interfacial compound formation associated with the use of ZnO buffers layers in the hydride vapor phase epitaxy of GaN," Applied Physics Letters, 76:3454-3456, 2000.	
		MOLNAR et al., "Growth of gallium nitride by hydride vapor-phase epitaxy," Journal of Crystal Growth, 178:147-156, 1997.	
Lee		DETCHPROHM et al., "Hydride vapor phase epitaxial growth of a high quality GaN film using a ZnO buffer layer," Appl. Phys. Lett., 61:2688-2690, 1992.	

Examiner Signature	<i>Kevin Ming Lee</i>	Date Considered	4/5/2005
--------------------	-----------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Application Number	10/691,353
		Filing Date	October 22, 2003
		First Named Inventor	Kryliouk et al.
		Art Unit	2879- 2823
		Examiner Name	H. Lee
Sheet 2	of 2	Attorney Docket Number	5853-415

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
Lee		STRITTMATTER et al., "LP-MOCVD growth of GaN on silicon substrates-comparison between AlAs and ZnO nucleation layers," Materials Science and Engineering, 59:29-32, 1999.	
		LEE et al., "The Application of a Low Temperature GaN Buffer Layer to Thick GaN Film Growth on ZnO/Si Substrate," Phys. Stat. Sol., 176:583-587, 1999.	
		DEHOFF, R., "Thermodynamics in Materials Science," McGraw Hill, 326-327, 1993.	
Lee		MOLNAR et al., "GALLIUM NITRIDE THICK FILMS GROWN BY HYDRIDE VAPOR PHASE EPITAXY," Mat. Res. Soc. Symp., 423:221-226, 1996.	

Examiner Signature	<i>Kevin Ming Lee</i>	Date Considered	4/5/2005
--------------------	-----------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.